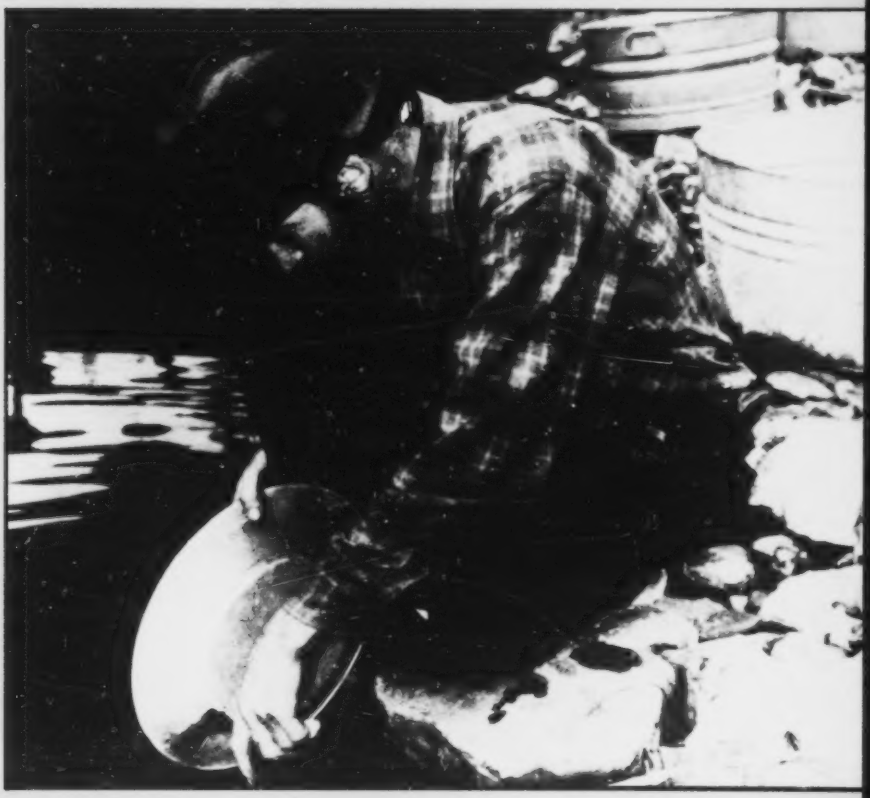
JUNE 1985
ALASKA ECONOMIC TRENDS

Alaska Department of Labor Bill Sheffield, Governor, State of Alaska



1 Alaska's Mining Industry

Alaska Economic Trends

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The following notes pertain to Nonagricultural Wage and Salary Employment Tables:

Government includes teachers in primary and secondary schools, and personnel employed by the University of Alaska.

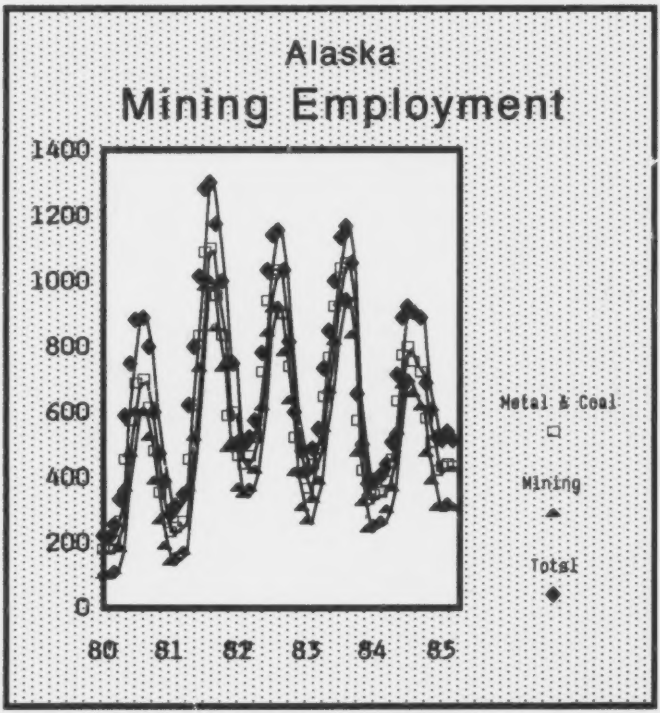
Benchmark date March 1964.

P/ Denotes preliminary estimates.
R/ Denotes revised estimates.

Alaska's Mining Industry

By Ed Eboch

One would assume from news reports of shrinking markets and depressed prices that the future of the mineral mining industry in Alaska, as well as the rest of the United States, is bleak. According to a forecast of lead and zinc prices, made to the Alaska Legislature by Stanford Research Institute, after continuing to drift lower these prices will be only slightly above current prices in real terms by the 1990's. With mineral prices at the lowest level in years mines are closing worldwide. Major oil companies have begun to divest themselves of their mineral mining operations. Mining employment in Alaska is down considerably from the levels or the past several years. Alaska mining companies are reducing their staffs or closing their Alaskan offices. Business-



Week (December 17, 1984) reported the death of mining in the United States. In spite of all the negative news about mining the long-term outlook for mining in Alaska is suprisingly positive.

Current mining employment hardly suggests the potential for mining in Alaska. In 1984 there was an annual average of 653 employees (excluding self employed, which would include a substantial number of placer miners) in mining in Alaska, down from 738 in 1983; 756 in 1982; and 798 in 1981. With coal mining and industrial mining (sand, gravel and other construction-related materials) up from previous years the decline in mining employment is entirely the result of drops in mineral mining employment (Table I). Oil and gas employment is excluded from this analysis.

The industrial mining sector will continue to expand as the population increases and the economy grows.

Even so, the potential for mineral mining in Alaska and the associated increases in employment is excellent in the long run (early to mid 1990's). There are currently three major projects under development that should come into production with improved mineral prices. At least two of the mining ventures appear to be profitable at current prices, although the rate of return is not attractive. The Greens Creek Joint Venture in the Southeast Region would add 150 employees to mining employment at full production. The Red Dog project in the Northern Region of the state would add up to 420 employees and the Quartz Hill project in the Southeast would add 700 to 900 employees. Other potential mineral mining and coal projects could add hundreds of additional employees to mining employment.

The industrial mining sector (sand and gravel plus building materials) will continue to expand as the population increases and the economy grows. This sector will grow faster as economies of scale will make it possible to produce items locally that are now being imported. Coal mining also offers potential for expanded operation as well as additional coal mines being

brought into production. In addition, a like number of indirect employees would be added to industries in support of these mining operations and to provide service to the employees of the mines.

The settlement of native land claims through the passage of the Alaska Native Claims Settlement Act (ANCSA) and the state land issues through the passage of Alaska's Statehood Act and the Alaska National Interest Lands Conservation Act (ANILCA) has cleared up much of the uncertainty about land available for mineral development. While questions still remain and land selection continues, the transfer of land from federal jurisdiction to state and private ownership should speed the development of mineral and coal resources when mineral prices become more favorable.

Surveys indicate nearly 300 mechanized placer mines producing gold in Alaska.

The benefits to Alaska's economy, besides increased employment, include a more diverse economy and a greater tax base. With the location of the potential mines spread around the state, especially in the less populated areas, the Alaska economy would have a more solid base for future development. Should all the potential mineral mining operations be developed it may then become attractive for the development of a mineral processing industry in Alaska. This would lead to a more integrated economy and a greater range of investment and employment choices. In the long run (ten years but certainly 20 years when oil and gas resources, even with additional discoveries, will be largely depleted) Alaska will be dependent on development of these mineral resources for a healthy economy.

There are currently few major producers of minerals in Alaska. The largest tin producer in the United States is Lost River Mining in Nome but the value of production was estimated at only $400,000 in 1984. Gold, coal, and sand and gravel are the

only minerals of any significant value that are currently produced in Alaska. The value of gold produced in 1984 is estimated at $63 million. Coal production had an estimated value of $24 million in 1984. The total value of minerals is estimated at just under $200 million in 1984 (Table I).

Table I
Alaska
Reported Mineral Production
1982-1984

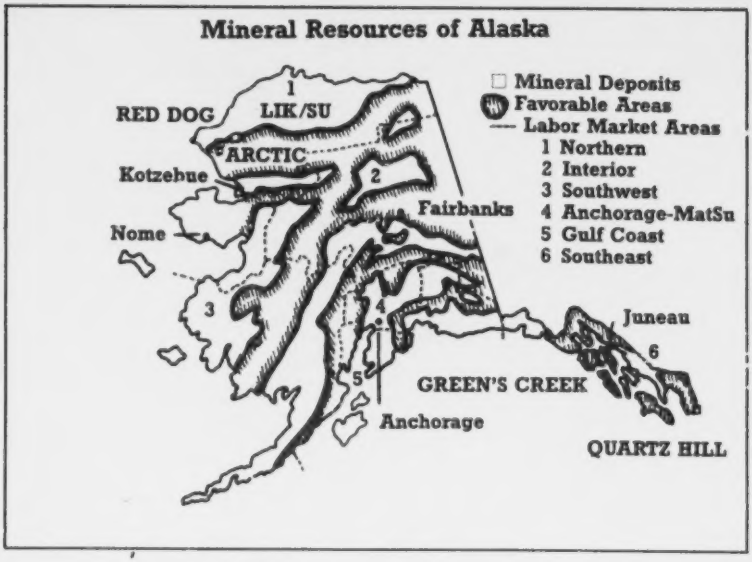
	Volume			Value (000's)		
Metals	**1982**	**1983**	**1984**	**1982**	**1983**	**1984**
Gold(oz)	174900	169000	175000	$69960	$67600	$63000
Antimony(lb)	—	22400	135000	—	25	225
Silver(oz)	22000	32200	20000	198	332	159
Tin(lb)	198000	215000	225000	1365	1100	400
Industrial Metals						
Sand & Gravel(mt)	45	50	27	91000	105000	95000
Crushed Stone(mt)	3.4	5.3	2.7	15600	20000	16000
Coal(ton)	830000	830000	849161	18000	18000	23755
Other				150	242	877
Total				$196423	$212399	$199437

Source: Alaska's Mineral Industry 1984, Alaska Office of Mineral Development & Alaska Division of Geological & Geophysical Surveys.

MINERAL PRODUCTION

Surveys indicate nearly 300 mechanized placer mines with an additional 40 recreational placers producing gold in Alaska. The greatest production is in the Eastern Interior Region where about one-half of the state's gold is produced. The next greatest production is from the Western Region which includes the Seward Peninsula. Alaska Gold Company operating out of Nome is the largest producer in the region. Small amounts of silver are produced around the state and occasionally metals of lesser value have been produced.

While mineral mining has little impact on Alaska's economy in terms of employment or tax revenues it offers the most potential, with possibly the exception of oil and gas, to make a major contribution in the future. Currently there are three projects that



are capable of being placed into production by the early 1990's if not sooner. These three, as well as other potential projects, will be discussed in some detail below.

Cominco-NANA Red Dog Project

The Red Dog project in the De Long Mountains of northwest Alaska, about 80 miles north of Kotzebue, has received the most attention recently because of a request for state assistance in construction of a road and port facility in support of the mine operation. As proposed, the state would be repaid its investment through user fees from the Red Dog Mine and other potential users in the area, where there are other attractive mineral deposits.

The Red Dog property is a world class zinc-lead-silver-barite deposit. The Red Dog deposit is owned by NANA Regional Corporation. The mine would be operated by Cominco Alaska Inc. The main deposit indicates reserves of 85 million tons of 17.1% zinc, 5.0% lead and 2.4 oz/ton of silver. Drilling has indicated additional reserves in the area with potential metal values. The project has progressed to the preliminary development stage with environmental, mine design, and overall mine feasibility under study.

While the success of the Red Dog mining venture is not dependent on state assistance, state support would send a positive signal to the mining industry. The Alaska State Legislature passed a bill that approved the necessary funding to allow the Alaska Industrial Development Authority to build and operate the desired port and road facilities if certain conditions are met, including a guarantee of repayment by Cominco of the costs should the mine not open.

Greens Creek Joint Venture

Knowledgeable professionals feel that the Greens Creek Joint Venture, located in a non-wilderness area in the Admiralty Island National Monument about 18 miles southwest of Juneau, will be the first of the major hard-rock mining projects to begin production. Passage of ANILCA in December of 1980 allowed development of the Greens Creek deposit. Reserves are estimated to be more than 4.0 million tons of ore with 10.3 oz/ton of silver, .09 oz/ton of gold, 6.4% zinc and 2.1% lead.

Current plans are to house the mine work force in Juneau with daily commutes to the mine site by ferry and bus. This project has particular significance to the Juneau economy at a time of declining state revenues and cutbacks in state employment and state contract employment. While the mine employment will be no substitute to the loss of state employment it would have the effect of softening any loss of employees due to state budget cuts and would offer local citizens employment alternatives.

Quartz Hill

The third mining project that should be in production by the 1990's is the U.S. Borax Quartz Hill project located in the Misty Fiords National Monument east of Ketchikan. With the passage of ANILCA the area surrounding Quartz Hill was given an exclusion from the wilderness classification allowing the project to continue. Reserves are estimated to exceed 1.5 billion tons of minable ore with .136% molybdenite with several hundred million tons of surface ore that grades at .2% molybdenite. Original plans were for this mine to be in production by 1987 but a continued low molybdemum price has resulted in a deferred schedule.

U.S. Borax has announced that workers will be housed in Ketch-

ikan rather than at the mine site thereby minimizing the disturbance to the Misty Fiords National Monument. The development of this project will have a significant impact on Ketchikan because of the size of the work force (700 with the initial production rate of 40,000 tons/day and 900 with full production of 80,000 tons/day) and the expected life of the mine (55 years). A third basic industry (along with fishing and lumber) in Ketchikan means a more diverse economy both locally and statewide and greater opportunities for Alaska's Southeast residents.

OTHER MINERAL PROSPECTS

Northern Area

While these are the most prominent mineral deposits in Alaska they are by no means the only attractive prospects. The Lik deposit, 12 miles north of Red Dog, has estimated reserves of 24 million tons of ore that grade at 9% zinc, 3.1% lead and 1.4 oz/ton of silver. An extension of the Lik deposit north of the main deposit is yet to be evaluated but is considered potentially as good as the main deposit. Development of the Red Dog deposit enhances the prospects of the Lik deposit being developed. Also in this area is a joint venture involving the NANA Development Corporation and the Kennecott Corporation where exploration work has been done on the Husky claim group. This general area is considered attractive for other possible mineral deposits and additional exploration activity can be expected with the building by the state of the road and port.

To the east and south of this area, is the Ambler district where the Arctic deposit under development by Kennecott Corporation has indicated reserves of 35-40 million tons of ore with 4.0% copper, 5.5% zinc, .8% lead, 1.6 oz/ton of silver and .02 oz/ton of gold. Kennecott Corporation also holds several other prospects in this area. In addition assessment work has been done by Anaconda Minerals Company and its partner Sunshine Mining Company on several claims groups in the Ambler district including the Tom Tom and the Smucker prospects.

Also included in the northern labor market area is the highly mineralized Seward Peninsula and historic placer gold district. Besides the Lost River tin mine and approximately 35 placer mining operations, exploration and development work in the

area has identified a load-tin prospect and numerous gold-placer prospects.

Interior Area

In the Interior labor market area about 50% of the state's total gold output is produced. There were approximately 40 medium to large mechanized mines and 80+ recreational ventures in the Circle Mining District near Fairbanks. Because of low base metal prices most of the exploration and development work in this region was for precious metals. However, interest was also shown in tin, tungsten and antimony. There are several attractive known deposits in the Interior Region including the copper, gold, and iron ore of the Zackly and Zackly extension of the south flank of the Alaska Range and the lead-zinc-copper-silver-gold deposits of the Delta Schist Belt of the east-central Alaska Range just south of the community of Tok. Closer to Fairbanks on the Ester Dome several companies have promising precious metal claims. The Grant Mine on Ester Dome is being equipped for production and is scheduled for production late this year. Further east in the Chandalar Mining District (eastern Brooks Range) there has been exploration and development work on gold lode and placer deposits where lode and placer production now occurs.

Southwest Area

In the Southwest labor market area exploration continues at the Goodnews Platinum mine at Goodnews Bay and assessment work continues on a gold-tungsten deposit in the Iditarod Mining District. In the past exploration activity has been heavy on Unga Island; located 550 miles west of Anchorage, where the old Apollo and Sitka gold mines were located, but with disappointing mineral prices activity was reduced considerably this past year. During the past several years major exploration companies have shown interest in base and precious metals on the Alaska Peninsula and other regions of the Southwest labor market area, but activity has been modest compared to other areas of the state.

Gulf Coast Area

One of the most intensively explored prospects in 1984 was the Johnson River copper-lead-zinc-silver-gold deposit on the west

side of Cook Inlet in the Gulf Coast labor market area. This prospect is a joint venture between the Cook Inlet Regional Native Corporation and Anaconda Minerals Company and is located on Native land. An additional discovery six miles north of this area indicates additional gold-silver-lead deposits. It has the additional advantage of being close to tide water. Should the deposit be of a size to be commercial this prospect would have a very good possibility of coming into production in the early 1990's. Additional exploration activity in the Gulf Coast area includes several proposed offshore gold dredging operations in the Cook Inlet area.

Anchorage/MatSu Area

Another attractive deposit is the Coal Creek tin-silver-copper discovery near Hurricane Station in the Anchorage/Matanuska-Susitna labor market area. What appears to be a commercial deposit is near existing transportation systems, the Alaska Railroad and the Parks Highway. Numerous small scale operators conducted exploration in the area but no other major mineral exploration work is currently being undertaken.

Southeast Area

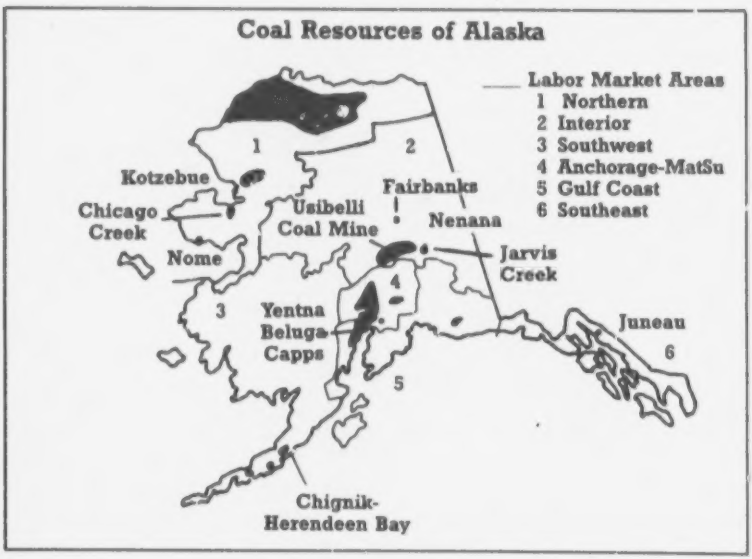
With two of the three most likely mines to be brought into production in the near future the highly mineralized region of the Southeast labor market area offers the greatest potential to have a significant impact on Alaska's economy. Several old precious mines in this area are being explored for consideration of reopening. Several deposits of high-grade copper and zinc, which include precious metals, are being actively explored in the Haines/Skagway area. These include the Jarvis Glacier prospect and the Mt. Henry Clay area northwest of Haines (which has the same geological horizon and series as the Windy Craggy deposits which is 40 miles northwest of Mt. Henry Clay) where several different companies have actively done exploration work. Exploration for precious metals and base metals is going on throughout the Southeast from the Prince of Wales Island in the South to Petersburg/Wrangell area to Yakutat Bay area in the Northern Southeast labor market area. The Southeast could also be impacted by discoveries in the British Columbia and Yukon Territory of Canada. The Windy Craggy deposit which shows over 90 million tons of ore with 3.0% copper, 0.1% cobalt, and significant gold, silver and zinc would

use Alaska waters for export of its concentrate should it come into production. Reopening of the Cyprus-Anvil Mine in Canada northeast of Skagway would mean a revived Skagway economy.

COAL RESOURCES

Although half of the estimated coal resources of the United States are in Alaska, the Usibelli Coal Mine near Healy is the only major operational coal mine in the state. There are a few small one and two-man operations supplying coal to local communities. Previous to the signing of a coal export agreement in late 1984 with Sun Eel Corporation, as purchaser for Korean Electric Power Company (KEPCO) of South Korea, all of the coal produced at the Usibelli mine was used in state. With this new agreement Usibilli expects to increase its production from 800,000 tons/year to over 1.6 million tons/year by the end of 1986. Exports of coal to Korea began in late 1984 from the Usibelli mine.

Coal resources are extensive in both the Northern region and the Gulf Coast-Anchorage/Matsu areas of the state. In the Gulf Coast-Anchorage/Matsu areas exploration drilling has been



conducted in several fields while in the Northern area information on the extent of coal resources has been from petroleum well logs. There has been considerable exploration work done in the Beluga coal field in the past; and during this last year exploration in the Bering River coal field has been undertaken by a joint venture involving the Chugach Alaska Corporation (an Alaskan Regional Native corporation) and the Korean Alaska Development Corporation. These fields are near tide water that is free from ice year round With continued interest from Korea and other Pacific Rim nations to secure an alternative to dependency on oil it is only a matter of time until these resources will be developed.

INDUSTRIAL MINERALS

The value of industrial mineral production exceeded $100 million in 1984 as employment doubled. Statewide use of sand and gravel and building stone is concentrated in the North Slope oil fields and in the largest urban areas. With the decline in oil prices, oil companies are beginning to reevaluate their exploration and development plans for the next few years. With oil prices expected to continue to decline oil companies can be expected to reduce their efforts on the North Slope and other areas of the state.

Lower oil prices also mean lesser state revenues which translates into smaller capital construction budgets. While a large percent of funds for roads, ports and airports is federal funds, in most cases these federal funds require matching state funds. The combined impact of a slower oil industry and declining state revenues will mean a weak market for industrial minerals over the next few years. Real growth in this economic sector will not occur until a recovery of oil and/or mineral prices result in mine and oil field construction and an improved revenue picture for the state.

Conclusion

Alaska's mineral and coal resources are extensive. Several deposits are known to be world class and expectations are for additional discoveries to be in the world class range. While some costs in Alaska are a detriment to development, technological improvements in mining are offsetting these disadvantages. Alaska (and Western Canada) is a highly mineralized area

that is still largely unexplored. While there are many known mineral deposits of commercial potential in Alaska much of the state has not had extensive geological and geophysical surveys. The Alaska Department of Geological and Geophysical Surveys has an on-going program to systematically survey Alaska's geology including minerals and construction materials.

There is evidence that State government appreciates and supports the need to begin development of these resources as oil prices and oil production declines. This is evident in the efforts to expedite the permitting process and in support of development of the Red Dog project. Given the cyclical nature of the mining industry and the time it takes to bring a mine into production now may be the most appropriate time for exploration and development. As mineral and coal resources are depleted at existing mines world wide it only becomes a matter of time until the Alaska discoveries will be developed. By concentrating on the short-term, opportunities in mineral and coal development may be missed.

For more detailed information refer to the following publications or contact the appropriate office:

Alaska Mineral Industry 1984, Special Report 38, Alaska Department of Commerce and Economic Development, Office of Mineral Development and Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys, 1985.

Alaska's Resource Inventory 1984, Special Report 36, Department of Natural Resources, Division of Geological and Geophysical Surveys. 1984.

The Mineral Industry of Alaska, U.S. Bureau of Mines Mineral Yearbook. 1983.

Alaska

By Ed Eboch

State Expenditures

The Department of Labor, Research and Analysis section has received requests to update the 'Cash on the Street' model which was discussed in the September 1983 issue of *Alaska Economic Trends*. A regression model was developed using a measure of state expenditures referred to as 'Cash on the Street' (also including trend and seasonal dummies as explanatory variables) to explain changes in employment. In reviewing the model it was found that cash on the street or state expenditures explained less than 3% of the change in employment.

That 95% of the change in employment was explained by the trend and seasonal variables using this model is not surprising given that most work as a result of state expenditures is completed before the state disburses funds. There is a several week lag before state workers receive their paycheck. Construction projects receive payment for work completed or on a percentage of work completed. State expenditures would therefore lag direct employment created by state expenditures. They would however proceed some of the secondary and tertiary employment created by state expenditures but even here the support industries will respond to expectations so that much of this employment will proceed state expenditures.

Because of the small value of cash on the street as a predictor of employment it was decided not to use this model to forecast employment. In a situation of declining revenues, cash on the street may explain a greater percentage of change in employment, but the model would have to be continually rerun and would be successful in identifying changes in the direction of employment only after the fact.

That is not to say that knowledge of state expenditures would not be useful in business planning. To assist those people who would find this data valuable the State's current years expenditures to March 31, 1985 is published in Table I. Of more use however would be information about the State's future expenditures. This would require details about the State's 1987 bud-

get which is beyond the capabilities of this publication. Copies of the State's budget are available at local libraries throughout the state shortly after the new state fiscal year begins in July.

The data in Table I and Table II is a cumulative total. It gives a measure of the importance of state expenditures and an idea of the timing and the various categories of expenditures. The personal services category includes salaries and benefits of state employees. Travel includes transportation, per diem and moving expenses of state employees or others that travel on state business. Besides costs for professional fees and services, the contractual category includes what is commonly referred to as overhead costs such as space expense, utilities, printing and equipment rentals. Commodities would include materials and supplies such as paper used in the daily operations of State government. Equipment includes not only office equipment but also shop, industrial and scientific equipment. Real property is expenditures for buildings and land or interest in lands as well as other properties. Assistance would include grants and awards to individuals and communities. For a more complete description, see the state budget documents.

Table I
State of Alaska
FY 85 Cumulative Disbursements
7/1/84-3/31/85
(In Thousands)

As of	Operating Budget Current Year Budget	Operating Budget Prior Year Budget*	Capital Improvements Current Year Budget	Capital Improvements Prior Year Budget*
7/31/84	$155,238	$71,523	$127,384	$426
8/31/84	320,179	107,091	328,880	660
9/30/84	503,213	116,628	638,205	2,143
10/31/84	838,293	129,984	751,235	2,276
11/30/84	1,004,294	137,318	856,092	2,418
12/31/84	1,426,531	141,087	974,653	2,463
1/31/85	1,695,923	143,743	1,059,963	2,477
2/28/85	1,901,760	147,997	1,113,175	2,488
3/31/85	2,109,925	150,552	1,151,444	2,491

Table II
State of Alaska
FY 85 Expenditures
by Category
7/1/84-3/31/85
(In Thousands)

Category	Operating Budget Current Year Budget	Operating Budget Prior Year Budget*	Capital Budget Current Year Budget	Capital Budget Prior Year Budget*
Personal Srvc.	$448,406	$25,202	$25,621	$116
Travel	17,709	2,629	2,628	5
Contract Srvc.	196,399	37,710	120,170	2,199
Commodities	36,044	7,729	4,451	13
Equipment	3,816	3,979	13,812	111
Real Property	10,823	698	450,814	46
Assistance	1,258,801	72,525	522,936	—
Misc.	137,911	41	—	—
Nonexpense Items	13	5	11,008	—

Operating Budget Disbursements FY 85 thru 3/31/85 = $2,260,448
Capital Budget Disbursements FY 85 thru 3/31/85 = $1,153,936

* After 6/30/1984

Source: Alaska Department of Revenue.

Nonagricultural Wage and Salary Employment
by Place of Work
Alaska

			Changes From:	
	P/ 4/85	R/ 3/85	4/84	3/85	4/84
Nonag. Wage & Salary	225700	222100	217700	3600	8000
Mining	9500	9600	8800	-100	700
Construction	16800	15700	18200	1100	-1400
Manuacturing	9400	8600	9200	800	200
Food & Kindred Prod.	3800	3400	3700	400	100
Lumber & Paper Prod.	2400	2100	2400	300	0
All Other Mfg.	3200	3100	3100	100	100
Trans. Comm. & Utilities	18300	18300	18400	0	-100
Trucking & Whseing.	2200	2200	2100	0	100
Water Transportation	1100	1100	1200	0	-100
Air Transportation	6000	6000	6000	0	0
Other Trans. Comm. & Utilities	9000	9000	9100	0	-100
Trade	44700	43800	42500	900	2200
Wholesale	8900	8600	8400	300	500
Retail	35800	35200	34100	600	1700
Gen. Mer. & Apparel	5000	4900	4600	100	400
Food Stores	6000	5900	5400	100	600
Eating & Drinking Pl.	13100	12800	12200	300	900
Other Retail Trade	11700	11600	11900	100	-200
Finance-Ins. & R.E.	12800	12700	12100	100	700
Services & Misc.	44000	43700	42100	300	1900
Government	70200	69700	66400	500	3800
Federal	17600	17500	17900	100	-300
State	21100	21000	19600	100	1500
Local	31500	31200	28900	300	2600

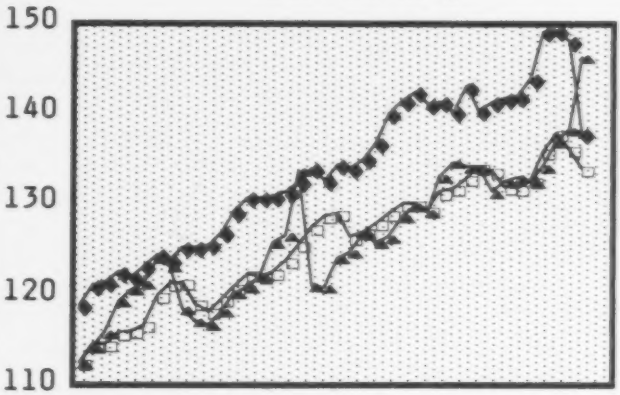
Prepared in cooperation with the U.S. Bureau of Labor Statistics.

Government includes teachers in primary and secondary schools, and personnel employed by the University of Alaska.

Benchmark Date March 1984.

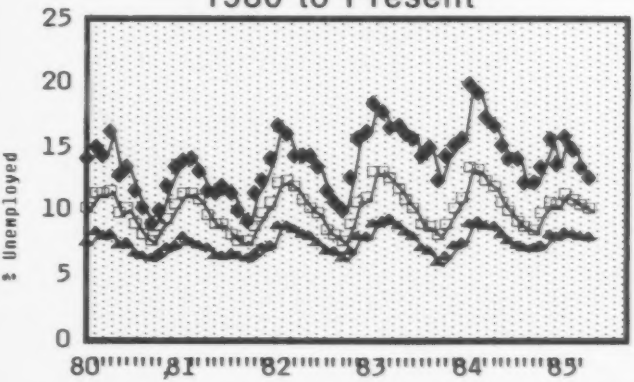
P/ Denotes Preliminary Estimates
R/ Denotes Revised Estimates.

Composite Nonag. Employment Indexes
Seasonally Adjusted
1982 To May



source: Ak. Dept. of Labor

Unemployment Rates
Not Seasonally Adjusted
1980 to Present



source: AK. Dept. of Labor

Anchorage/MatSu

By Greg Huff

April Employment and Unemployment

With the month of April comes the first major rebound in employment from the winter lull. Anchorage nonagricultural wage and salary employment grew in April by 1,650 jobs, an increase of 1.4%. However, the jump in employment this spring was not as great as last April due to lingering winter weather. This April was one of the coldest in history. However, compared to last year figures employment in April was up by 4,200 or 3.9%.

Two sectors showed atypical seasonal patterns for April—the trucking and warehousing sector and the general merchandise sector (large department and apparel stores) which experienced employment declines. Most industries showed yearly increases in employment except for construction, trucking and warehousing, general merchandise, air transportation and the federal government.

Both the trucking and warehousing industry and general merchandise stores are suffering from the impacts of highly competitive markets. The trucking and warehousing firms are not only highly competitive with each other but also must compete with the Alaska Railroad and the water transportation industry. Most of the goods shipped to Anchorage arrive at the Port of Anchorage or Seward in cargo containers, flats, or vans ready for distribution by truck or rail. Only a small percentage of goods are shipped by truck to the area via the Alaska Highway. According to 1985 Port of Anchorage statistics there has been less freight tonnage arriving at the port. The lower level of freight arriving at Alaska ports has increased competitive pressures and forced freight and moving firms to adjust employment levels downward and, in some cases, to drop out of the market altogether.

The number and types of retail establishments have increased dramatically during the last few years and have taken market share from the large general merchants. Another factor in the declining market share of the department stores is the growth of Northway Mall and Dimond Center which do not have a mer-

Nonagricultural Wage and Salary Employment
by Place of Work
Anchorage

				Changes From:	
	P/ 4/85	R/ 3/85	4/34	3/85	4/84
Nonag. Wage & Salary	113350	111700	109150	1650	4200
Mining	4250	4200	4050	50	200
Construction	8400	7850	8950	550	-550
Manufacturing	2500	2350	2350	150	150
Food & Kindred Prod.	350	350	350	0	0
Other Mfg.	2150	2000	2000	150	150
Trans. Comm. & Utilities	8900	8650	9000	250	-100
Trucking & Whseing.	1100	1150	1150	-50	-50
Water Transportation	350	350	350	0	0
Air Transportation	3500	3350	3750	150	-250
Other Trans. Comm. & Utilities	3950	3800	3750	150	200
Trade	27700	27350	26000	350	1700
Wholesale	6850	6650	6450	200	400
Retail	20850	20700	19550	150	1300
Gen. Merchandise	1450	1500	1550	-50	-100
Food Stores	3150	3050	2700	100	450
Eating & Drinking Pl.	8200	8200	7500	0	700
Other Retail Trade	8050	7950	7800	100	250
Finance-Ins. & R.E.	8800	8800	8400	0	400
Services & Misc.	26300	26250	24850	50	1450
Government	26500	26250	25550	250	950
Federal	9650	9550	10000	100	-350
State	7400	7400	6800	0	600
Local	9450	9300	8750	150	700

Nonagricultural Wage and Salary Employment
by Place of Work
Anchorage-MatSu

				Changes From:	
	P/ 4/85	R/ 3/85	4/84	3/85	4/84
Nonag. Wage & Salary	120800	118950	114900	1850	5900
Mining	4250	4200	4050	50	200
Construction	9150	8450	9850	700	-700
Manufacturing	2650	2450	2450	200	200
Trans. Comm. & Utilities	9550	9350	9500	200	50
Trade	29400	29050	27350	350	2050
Finance-Ins. & R.E.	9300	9300	8450	0	850
Services & Misc.	27700	27600	25800	100	1900
Government	28800	28550	27450	250	1350

chant classified as a department store but have stores classified as miscellaneous retail or apparel. These malls have grown faster than the malls or shopping areas that contain large stores classified as department stores. The decline in market share has forced the large department stores to lower employment levels.

Construction employment has fallen below last year's levels, primarily because of the declining activity in residential building construction. Air transportation employment still reflects the Wien layoffs; and the over the year decline in federal government employment was a result of the transfer of the Alaska Railroad from federal ownership to state ownership.

Good news was contained in the unemployment rate for Anchorage. Not only did the rate fall in April due to the seasonal upturn in employment, but for the fourth month in a row the unemployment rate has registered lower than the corresponding rate for 1984. This is good news for job seekers despite the fact that the creation of new jobs has slowed compared to last year. The key factor here appears to be the slowing of in-migration of workers into the Anchorage labor force.

1st Quarter Employment

The growth in employment for April was not as strong as the growth experienced during the first three months of 1985. Employment for the first quarter was 5.6% above year-ago levels which equates to an average 5,900 jobs (see Table I). Most noteworthy is the growth in the mining; finance, insurance and real estate industries (F.I.R.E.); food stores; and state government. The mining (oil and gas) industry has grown considerably despite falling oil prices and reorganization of some firms. Employment growth in the F.I.R.E. industry is based in the financial and insurance sectors with employment in real estate holding its own. State government employment increased from the previous year mainly due to the transfer of the Alaska Railroad.

Labor Force by Region and Census Area

	Labor Force			Unemployment			Rate			Employment		
	P/ 4/85	R/ 3/85	4/84	P/ 4/85	R/ 3/85	4/84	P/ 4/85	R/ 3/83	4/84	P/ 4/84	R/ 3/85	4/84
Alaska Statewide	254104	251034	241012	25461	25707	27599	10.0	10.2	11.5	228643	225327	213413
Anch.-MatSu Region	137070	136372	128108	11872	11936	11483	8.7	8.8	9.0	125198	124436	116625
Anchorage Borough	122290	121611	114503	9417	9425	9409	7.7	7.8	8.2	112873	112186	105144
MatSu Borough	14780	14761	13555	2455	2511	2074	16.6	17.0	15.3	12325	12250	11481
Gulf Coast Region	26185	25599	24817	3827	3693	3805	14.6	14.4	15.3	22358	21906	21012
Kenai Peninsula Bor	16258	15852	15394	2614	2484	2572	16.1	15.7	16.7	13644	13368	12822
Kodiak Island Bor	6023	5921	5880	742	746	617	12.3	12.6	11.1	5281	5175	4963
Valdez-Cordova	3904	3826	3843	471	463	616	12.1	12.1	16.0	3433	3363	3227
Interior Region	37881	37293	36064	4655	4847	5301	12.3	13.0	14.7	33226	32446	30763
Fairbanks North Star Borough	30651	30199	29146	3806	3985	4292	12.4	13.2	14.7	26845	26214	24854
Southeast Fairbanks	3006	2966	2847	303	326	344	10.1	11.0	12.1	2703	2640	2503
Yukon-Koyukuk	4224	4128	4071	546	536	665	12.9	13.0	16.3	3678	3592	3406
Northern Region	9104	8620	8704	867	801	1289	9.5	9.3	14.8	8237	7819	7415
Kobuk	2853	2725	2863	268	271	476	9.4	9.9	17.0	2585	2454	2327
Nome	3857	3659	3704	409	387	600	10.6	10.6	16.2	3448	3272	3104
North Slope Borough	2394	2236	2197	190	143	213	7.9	6.4	9.7	2204	2093	1984
Southeast Region	32447	31918	32607	3200	3440	4542	9.9	10.8	13.9	29247	28478	28065
Haines Borough	1071	1052	1019	150	155	135	14.0	14.7	13.2	921	897	884
Juneau Borough	12383	12072	12098	1062	1050	1235	8.6	8.7	10.2	11321	11022	10863
Ketchikan Gateway Borough	6843	6782	7021	640	742	1069	9.4	10.9	15.2	6203	6040	5952
Prince of Wales-Outer Ketchikan	2425	2370	2475	317	318	452	13.1	13.4	18.3	2108	2052	2023
Sitka Borough	4028	3931	3962	293	294	378	7.3	7.5	9.5	3735	3637	3584
Skagway-Yakutat-Angoon	2095	2089	2070	348	387	393	16.6	18.5	19.0	1747	1702	1677
Wrangell-Petersburg	3602	3622	3962	390	494	880	10.8	13.6	22.2	3212	3128	3082
Southwest Region	11417	11232	10712	1040	990	1179	9.1	8.8	11.0	10377	10242	9533
Aleutian Islands	2689	2655	2567	89	89	178	3.3	3.4	6.9	2600	2566	2389
Bethel	4480	4403	4234	471	446	551	10.5	10.1	13.0	4009	3957	3683
Bristol Bay Borough	448	454	424	40	51	49	8.9	11.2	11.6	408	403	375
Dillingham	1908	1885	1754	188	187	174	9.9	9.9	9.9	1720	1698	1580
Wade Hampton	1892	1835	1733	252	217	227	13.3	11.8	13.1	1640	1618	1506

P/ = Preliminary R/ = Revised 1984 Benchmark

Federal guidelines require the use of unrounded labor force data, adjusted to be consistent with the Current Population Survey (CPS) in formulas used to allocate federal funds. Comparisons between different time periods are not as meaningful as other time series published by the Alaska Department of Labor, because Alaska's CPS sample size is inadequate to accurately indicate monthly changes in level. The sampling errors are random in nature, meaning that the unemployment rates, in any given month, are as likely to be high as frequently as they are low. The official definitions of unemployment, currently in place, exclude anyone who has made no attempt to find work in the four week period up to and including the week that includes the twelfth of each month. Most economists feel that Alaska's bush localities have proportionately more of these discouraged workers.

Table I
Nonagricultural Wage and Salary Employment
(by Place of Work)
Anchorage
1st Qtr. 1984 and 1st Qtr. 1985

	1984 1st Qtr Average	1985 1st Qtr Average	Percent Change
Nonag. Wage & Salary	105600	111500	5.6%
Mining	3700	4167	12.6%
Construction	8033	7700	-4.1%
Manufacturing	2133	2267	6.2%
Food & Kindred Products	317	317	0.0%
Other Manufacturing	1817	1950	7.3%
Trans. Comm. & Utilities	8567	8700	1.6%
Trucking & Warehousing	1050	1167	11.1%
Water Transportation	300	350	16.7%
Air Transportation	3500	3333	-4.8%
Other Trans. Comm. & Utilities	3717	3850	3.6%
Trade	25433	27500	8.1%
Wholesale Trade	6233	6583	5.6%
Retail Trade	19200	20917	8.9%
Gen. Mer. & Apparel	1600	1583	-1.0%
Food Stores	2567	3083	20.1%
Eating & Drinking Places	7417	8233	11.0%
Other Retail Trade	7617	8017	5.3%
Finance-Ins. & Real Estate	8083	8700	7.6%
Services & Misc.	24567	26250	6.9%
Government	25083	26217	4.5%
Federal	9917	10133	2.2%
State	6533	6817	4.3%
Local	8633	9267	7.3%

Fairbanks/Interior

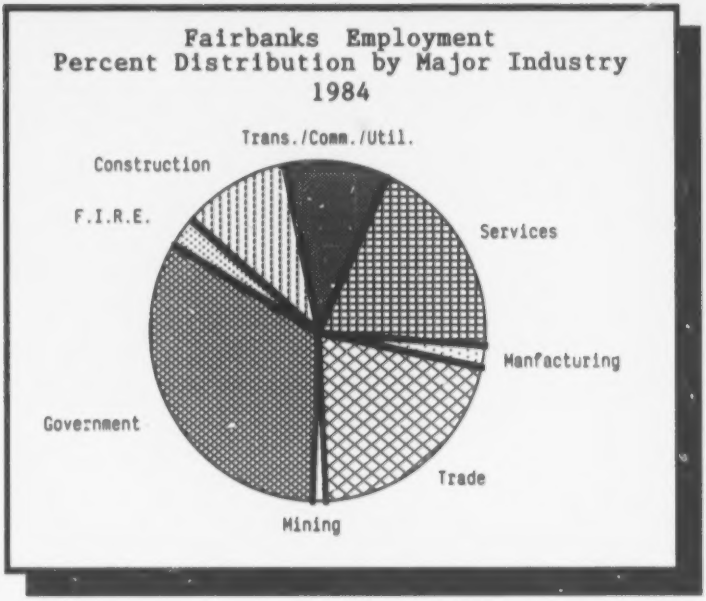
by Neal Fried

Government's Role in Fairbanks' Economy

According to the latest figures, one-third of Fairbanks' work force is employed by government. In 1984, government paid approximately $280 million in wages and salary, which represents 35% of Fairbanks' payroll income. Government remains Fairbanks' largest employer, though its share of the work force has been steadily shrinking. In 1970 44% of Fairbanks' workers were employed by federal, state or local governments, compared to 33% today. This has occurred because government, though growing, has been increasing slower than overall employment. During the past four years government's employment has climbed 21%, 10 percentage points less than total employment.

Government's share of total employment has fallen largely as a result of the development of Prudhoe Bay. This development has brought diversification to Fairbanks' economy. As a result, the private sector has expanded proportionately more than government. The discovery of oil did stimulate growth in government as record revenues began flowing into the state treasury. In some respects, this source of income has made government a more important basic employer than in the past. In the past, state and local government was largely funded with local taxpayer's dollars and operated more as a transfer of resources within the community's economy. Presently, local and state governments are heavily reliant on oil revenues. A large share of the funds needed to support state and local government activities now flows into Fairbanks from outside of the community. State income taxes no longer exist and the local tax burden has fallen in relationship to the services provided.

This has allowed residents to spend money, which otherwise would have gone to taxes, in the private sector of the economy. The secondary sector (trade and services) has been a major beneficiary . The rapid expansion in the secondary sector has resulted in a reduction of government's share of total employment. In the long run, government's reliance on oil revenues may mean that a decline in these revenues, and therefore a decline in government activity, could affect the economy more now than cuts in government might have in the past.



Fairbanks
Federal, State and Local Government
Percentage Share of Total Government
1984

Total Government	100.0%
Federal	29.8%
State	41.6%
Educational	24.8%
Noneducational	16.8%
Local	28.6%
Educational	17.4%
Noneducational	11.2%

Source: Alaska Department of Labor, Research and Analysis Section.

Federal Government

Over the past four years, federal government employment has grown by 21% in Fairbanks. Given federal budget cuts and

Nonagricultural Wage and Salary Employment
by Place of Work
Fairbanks

	P/ 4/85	R/ 3/85	4/84	Changes From: 3/85	4/84
Nonag. Wage & Salary	28200	27250	26650	950	1550
Mining	150	150	150	0	0
Construction	2650	2450	2150	200	500
Manufacturing	500	500	500	0	0
Trans. Comm. & Utilities	2800	2750	2750	50	50
Trucking & Whseing	450	450	400	0	50
Air Transportation	800	800	750	0	50
Other Trans. Comm. & Utilities	1550	1500	1600	50	-50
Trade	6050	5500	5650	550	400
Wholesale	1050	1050	1000	0	50
Retail	5000	4450	4650	550	350
Gen. Mer. & Apparel	550	500	550	50	0
Food Stores	800	800	700	0	100
Other Retail Trade	3650	3150	3400	500	250
Finance-Ins. & R.E.	950	900	950	50	0
Services & Misc.	5350	5300	5200	50	150
Government	9750	9700	9300	50	450
Federal	2700	2650	2700	50	0
State	4200	4250	3850	-50	350
Local	2850	2800	2750	50	100

Nonagricultural Wage and Salary Employment
by Place of Work
Interior

	P/ 4/85	R/ 3/85	4/84	Changes From: 3/85	4/84
Nonag. Wage & Salary	32550	31500	30750	1050	1800
Mining	250	250	250	0	0
Construction	2800	2550	2250	250	550
Manufacturing	550	500	500	50	50
Trans. Comm. & Utilities	3450	3400	3450	50	0
Trade	6450	5900	6000	550	450
Finance-Ins. & R.E.	1000	1000	1000	0	0
Services & Misc.	5800	5600	5550	200	250
Government	12250	12300	11750	-50	500

declining federal government employment nationwide, Fairbanks is certainly bucking the national trend. One reason is the military's large role in Fairbanks. Though uniformed military personnel are not included in these statistics, the military does employ large numbers of civilians. Their numbers have been climbing and are expected to continue to climb given the Army's plan to station additional troops in Fairbanks. Despite the federal sector's gains, it has lost a considerable percentage share of total employment. In 1970, 18% of the work force was employed by the Federal government, compared to 10% today.

State Government

State government employment has not quite kept up with the federal sector over the past four years. The University of Alaska and community college employees are part of the state count. The university's enrollment increased 24% since 1980 while community college enrollments have declined. State education employment has grown at a rate identical to enrollment growth at the university. The state's education employment is responsible for 60% of all state employment in Fairbanks. The large university population in Fairbanks is the reason why state government has a larger presence in Fairbanks than in the overall statewide economy. In Fairbanks the State employs 13.7% of the total work force versus 8.5% statewide. On the noneducational side of state employment, growth has been less rapid, only 13% in four years.

Local Government

Local government employment growth has out-paced all other levels of government in growth, largely in response to the recent Fairbanks population boom. The population has grown 29% since 1980 and local government employment has increased by 24%. Both noneducational and educational employment have climbed in excess of 22%, with local noneducational employment growing the most rapidly of all levels of government.

Though government's share of the work force has been shrinking, its role remains vitally important to Fairbanks' economy. It employs one-third of the area's work force and it provides a stabilizing element to an otherwise extremely seasonal economy. During poorer economic times, such as the post-pipeline construction slump, government also provides some durability to the local economy.

Gulf Coast

By Neal Fried

The Gulf Coast Fishery

The unemployment rates in the census areas of the Gulf Coast region remained in the double digit category in April. By early summer, however, unemployment rates will be falling quickly, in some cases to as low as 4 or 5%. The very low rates can be attributed to the frenzied salmon season; a short, economically action-packed, period of the year. Though salmon is by no means the only fishery in the region, its intensity and importance often overshadows all other fisheries. This has particularly been the case during the past three years which have been record salmon catch years, but dismal years for the shellfish harvest.

In the past, the tonnage of shellfish and salmon harvested was often close and for a number of years in the 1970s, shellfish tonnage actually exceeded salmon harvested. Beginning in 1981, the shellfish catch began a rapid decline, which has yet to come to an end. The king crab fishery simply crashed, the shrimp fishery declined, and this years tanner fishery is below par. During the past two years, Kodiak, the king crab center of the world, has not had a king crab season. How has this affected the employment picture?

For Kodiak, Cordova, and a number of the region's coastal communities heavily reliant on the fishing industry, it has meant economic hardship. In areas such as Kodiak, with strong year-round fisheries, many of the residents who could depend on steady work in the fishing industry in the past can no longer rely on this industry for their entire livelihood.

The annual fish processing employment numbers do not paint nearly as grim a picture (see Table I). During 1980, a good salmon and shellfish year, the fish processing employment numbers were only 10% higher than the 1984 levels. This is because the record salmon season of 1984 helped prop up the annual employment numbers. Employment during months that salmon are not harvested (January through May and October through December) fell 28%, providing a better indicator of the decline of the shellfish catch in the region. During the four salmon har-

Nonagricultural Wage and Salary Employment
by Place of Work
Gulf Coast

				Changes From:	
	P/ 4/85	R/ 3/85	4/84	3/85	4/84
Nonag. Wage & Salary	19150	18650	18400	500	750
Mining	750	800	700	-50	50
Construction	1500	1350	1550	150	-50
Manufacturing	2150	2050	2150	100	0
Food & Kindred Prod.	1450	1400	1500	50	-50
All Other Mfg.	700	650	650	50	50
Trans. Comm. & Utilities	2100	2100	2050	0	50
Trade	3350	3150	3100	200	250
Wholesale	450	400	450	50	0
Retail	2900	2750	2650	150	250
Finance-Ins. & R.E.	650	650	650	0	0
Services & Misc.	3150	3050	2950	100	200
Government	5500	5500	5250	0	250
Federal	450	450	500	0	-50
State	1650	1600	1550	50	100
Local	3400	3450	3200	-50	200

vesting months, there are more jobs in the fish processing industry than during the remaining eight months of the year.

Table I
Gulf Coast
Fish Processing Employment
Annual Average 1980-1984

1980	2855
1981	2889
1982	2565
1983	2539
1984	2595

The fish processing numbers tell only part of the story. There are no 1983-1984 fish harvesting employment statistics available yet, but the values of the harvest to the fishermen have been tabulated. In unadjusted dollars, the value of the region's entire shellfish and salmon harvest was $138 million in 1980 compared to $111 million in 1984. This loss of income has been felt in many of the region's communities in a much more dramatic way than the fish processing employment numbers indicate. This lower value has not only affected fishing employment directly, but also the fishing support industries. In communities such as Cordova and Kodiak, which are almost entirely dependent on

the fishing industry, the loss of value in the shellfish catch has resulted in extremely sluggish economies even after the infusion of oil revenue dollars. Some of the loss of total fishery value to the fishermen has come from lower salmon prices received in recent years. However, most of this loss is attributed to the total value drop in the shellfish harvest. Although much of the remainder of the state has been basking in economic prosperity, these communities have at best been holding steady.

The salmon season will soon be upon us again, and the missing crab and shrimp may be temporarily forgotten. The 1985 salmon season is projected to be bountiful, which will help ease losses taken in other fisheries. The entire industry in the short-term will not grow and prosper until there is a recovery in the shellfish harvest. A good salmon season, however, could not have been better timed.

Southeast Alaska

By John Boucher

Southeast Construction Employment

Southeast Alaska nonagricultural wage and salary employment increased by 1,050 jobs in the month of April to 29,000. The increase meant that there were 3.8% more jobs in the Southeast Alaska economy than there were in March. In April of 1984 employment in the Souhteast region was 28,250. The increase of 750 jobs over last year represents a 2.7% increase in the number of jobs since April of 1984. The over-the-month increases were distributed throughout all industries but that was not the case with the over the year gain. Mining, services and miscellaneous employment was the only industry group to show a decline over the month and that was due to a somewhat unusual drop in the miscellaneous services category of employment. This category runs the gamut of service-oriented employment, from lawyers and accountants to day care and benevolent associations such as the Elk's Club.

The over the year numbers tend to shed more light on the Southeast economy than the month to month comparisons. Construction employment is gradually falling behind last year's pace as the residential market, particularly in the capital city, has slowed considerably from last summer. Commercial and heavy construction are also down somewhat from last year but not to the degree that the residential market has slowed. Projects such as the new mall in Ketchikan and the city related work in Juneau including the renovation of the downtown area, the parking garage and the rebuilding of Marine Park will keep employment in heavy construction respectable throughout the summer.

The question on the horizon is to what degree the state's much smaller capital budget will affect construction employment in the latter half of the summer and into next year. Some municipal projects, such as Juneau's area wide water system, were counting on the state to foot the bill for a large portion of the project funds for this construction season. Needless to say municipalities were disappointed by the slice of the capital budget pie that they were given to work with. Whether or not this will impact construction employment during this season is yet to be determined; however, intuitively one would expect it to have an

Nonagricultural Wage and Salary Employment
by Place of Work
Southeast Alaska

			Changes From:	
	P/ 4/85	R/ 3/85	4/84	3/85	4/84
Nonag. Wage & Salary	29000	27950	28250	1050	750
Construction	1400	1250	1750	150	-350
Manufacturing	3000	2400	2950	600	50
Food & Kindred Prod.	800	450	800	350	0
Lumber & Paper Prod.	1950	1700	1900	250	50
All Other Mfg.	250	250	250	0	0
Trans. Comm. & Utilities	2000	1900	1850	100	150
Trade	4700	4600	4300	100	400
Wholesale	400	350	350	50	50
Retail	4300	4250	3950	50	350
Finance-Ins. & R.E.	1050	1050	1000	0	50
Mining, Services & Misc.	4400	4450	4450	-50	-50
Government	12450	12300	11950	150	500
Federal	2000	1950	2050	50	-50
State	5800	5700	5650	100	150
Local	4650	4650	4250	0	400

effect. Juneau, for example, will probably explore alternative methods of funding its water system, but the result could be that funds previously earmarked for other projects will be redirected to the water system creating one type of construction employment at the expense of another.

Another method of funding these types of projects might be through some form of tax or a bond issue. However, this might not be any better for the overall employment picture. The distribution of the income of the community would be impacted by having more of their income directed into paying for a capital project, such as the water system, through taxation. Adverse effects on employment caused by this method of financing could manifest themselves anywhere in the economy, but most likely in the secondary industries of services and trade as the people of the community would have less to spend in the local economy than they did previously. At any rate, the overall impact of less state spending on construction will be less employment in one sector or another or, more likely, some combination thereof.

Southeast Unemployment

Unemployment in Southeast was a surprising 4.0 percentage points lower in April 1985 than it was in April 1984. This was the fourth month in a row that unemployment in the region was 2.5 percentage points or more lower than it was during the previous year. The reason for the dramatic improvement in the unemployment rate can be placed almost entirely on the improved performance of the wood products industry from one year ago.

Census divisions whose wood products sector were practically shut down one year ago are now enjoying much lower unemployment rates. In Ketchikan unemployment has improved from 15.2% to 9.4%. In the outlying Ketchikan area, which includes Prince of Wales Island, unemployment has dropped from 18.3% to 13.1%; and in the Wrangell-Petersburg area unemployment has been cut in half from last year, going from 22.2% to 10.8. While these figures are certainly something for these communities to cheer about, the trouble that the Southeast Alaska wood products industry has experienced is far from over. These same areas will most likely experience the pains of high unemployment again as the industry continues its struggle to retrench.

Hours and Earnings

By Kathleen Thomas

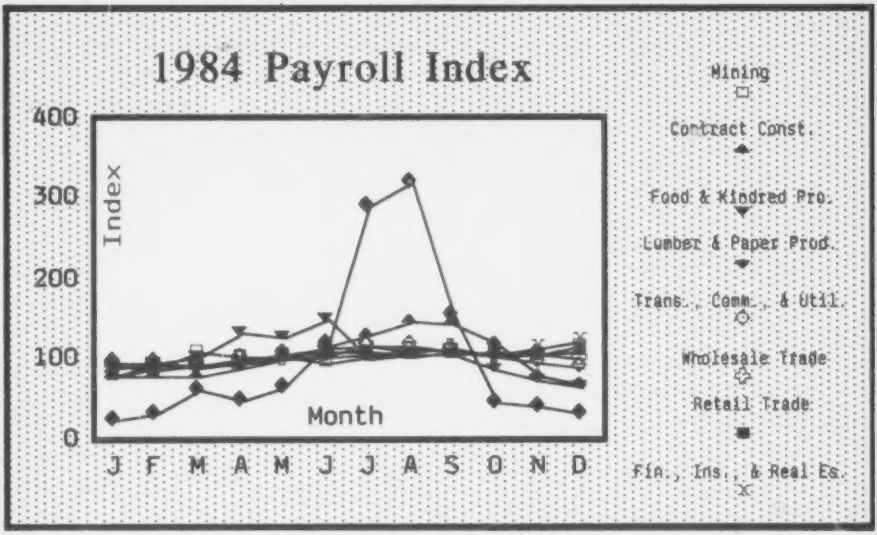
1984 Indices of Payroll and Workers' Hours

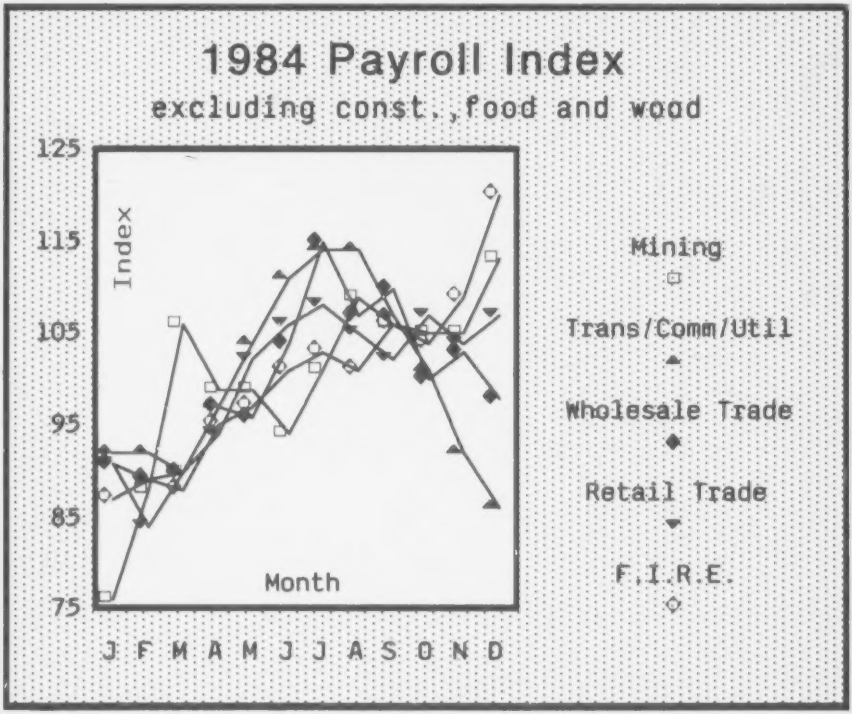
The U.S. Department of Labor, Bureau of Labor Statistics, prepares national indices of payroll and workers' hours. Using 1977 annual averages as the base period, indices are calculated for numerous industries. In some industries the indices date from 1947 providing a significant time series on payroll and workers' hours, though most industry indices date from the 1960's. Indices are being prepared for the State of Alaska dating from 1977 but are not available at this time. Rather, the most recent complete year's data, 1984, is analyzed as a separate entity by setting the 1984 annual average of each industry equal to 100. In this manner one year's cycle can be examined and the causes of variations within the year analyzed.

As an intermediate step in the preparation of state hours and earnings, total payroll and workers' hours are calculated. During the benchmarking process of hours and earnings, total payroll and workers' hours are calculated for each industry by month. The industry totals for each month are summed to give an annual total of payroll and workers' hours for that industry. By dividing this annual total by 12, an annual average can be obtained. This annual average for each industry is used as the base for each month. This calculation of indices for payroll and workers' hours is the method preferred by the Bureau of Labor Statistics.

In the determination of annual averages, mining will be used as an example. January's total payroll in mining is added to February's total payroll in mining which is summed with all subsequent months' total payroll in mining through December. This total payroll is divided by 12 to yield an annual average payroll in mining. The January total payroll is divided by the annual average and multiplied by 100 to obtain the payroll index for January in mining. The same technique is performed for each industry.

These indices measure changes in payroll and hours of production workers and non-supervisory workers. This is important for


1984 Payroll Index
400
300
200
100
0
Index
Month
J F M A M J J A S O N D
Mining
Contract Const.
Food & Kindred Pro.
Lumber & Paper Prod.
Trans., Comm., & Util.
Wholesale Trade
Retail Trade
Fin., Ins., & Real Es.


1984 Payroll Index
excluding const., food and wood
125
115
105
95
85
75
Index
Month
J F M A M J J A S O N D
Mining
Trans/Comm/Util
Wholesale Trade
Retail Trade
F.I.R.E.

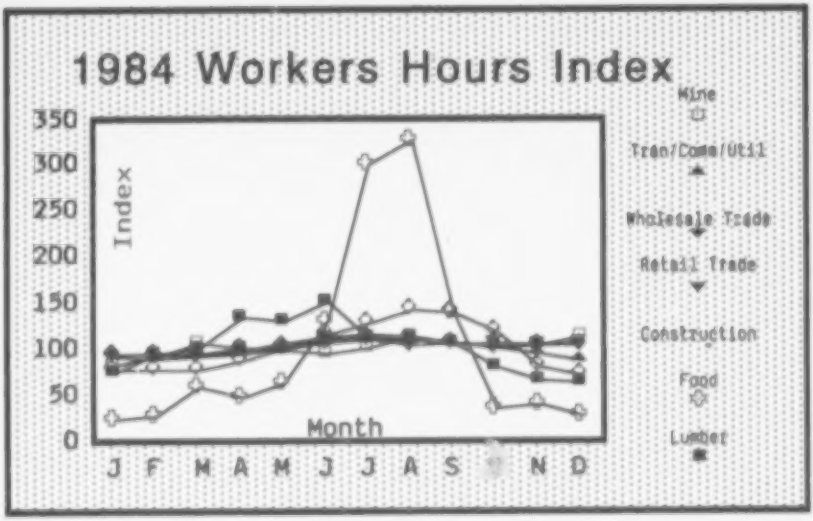
determining trends in wages and the work week and variations in seasonal effects among industries. Most industries in Alaska are tremendously cyclical. The majority have the typical cycle of increased activity in the summer and diminished activity in the winter. This cyclical effect is especially prevalent in the food and kindred products, lumber and paper products, and construction industries. To visualize the swings in average monthly payroll the indices are presented in the graph at the end of this article. Because the indices for these industries hide the cyclical nature of the average monthly payroll in other industries one graph is presented that includes all industries and one with these industries removed.

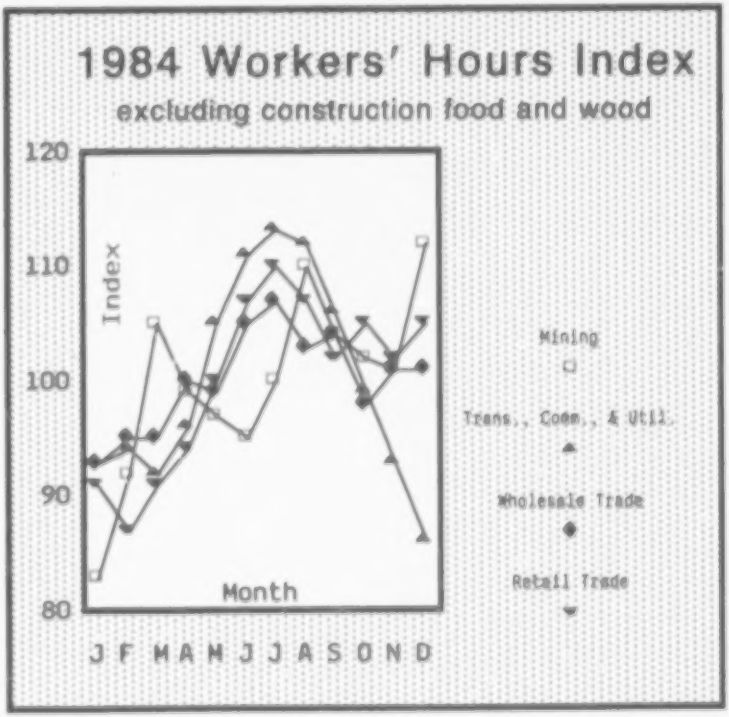
Food and kindred products far outstripped all other industries in disparity of high and low indices. The payroll index peaked in August with 317 and troughed in January with 23 (the average for all months equals 100.) A similar situation existed with the workers' hours index with the high in August of 326 and the low in January of 21. The salmon runs in the summer are responsible for the tremendous upsurge in summer payroll and workers hours since seafood processing is 90 to 95% of food and kindred products employment.

The 1984 lumber and paper products industry was increasing for the summer cycle in 1984 with a June payroll index of 148 until a strike hit one of the pulp mills and plummeted the payroll index to 98 in July. Payroll remained level through August and September but began to decline ending December at 63.

Construction is another industry whose cycle overwhelms movement in other industries. Its cycle is rather typical beginning with flat activity through March. At that point payroll begins to increase significantly to peak in August at 144. A slight decrease in September leads to a precipitous drop that continues through December. For both payroll and workers' hours, the December index is lower than January's. It is especially important since, for most cycles of this nature, January usually has the lowest index and the lower December index could signal a decline in construction activity in the upcoming year.

The transportation, communication, and utilities industry (TCPU) follows the cyclical pattern of peaks in the summer and troughs in the winter albeit at a smaller scale. TCPU is comprised of several categories some of which would be minimally affected


1984 Workers Hours Index
350
300
250
200
150
100
50
0
Index
Month
J F M A M J J A S O N D
Mine
Trans/Comm/Util
Wholesale Trade
Retail Trade
Construction
Food
Lumber


1984 Workers' Hours Index
excluding construction food and wood
120
110
100
90
80
Index
Month
J F M A M J J A S O N D
Mining
Trans., Comm., & Util.
Wholesale Trade
Retail Trade

by the seasons such as telephone companies, radio stations, cable television, and electrical associations. Other aspects of TCPU could easily be influenced by changes in construction and manufacturing industries, components like barge lines, stevedoring firms, airlines, travel services, and flying services. These components would cause an increase in workers' hours and payroll of TCPU employees, but the seasonal effects on those firms are dampened by firms experiencing no seasonal change thereby, leading to a summer increase of diminished amplitude.

Both payroll and workers' hours in mining peak twice during 1984 in March and August. Mining figures are heavily influenced by the high level of oil and gas activity which occurs in the northern portions of the state. In anticipation of the spring thaw and long days, a lot of oil and gas activity occurs in early spring. Equipment must be moved and in place before the thaw reduces accessibility to the drilling site. Once that occurs, activity moderates before increasing again in August in anticipation of the end of the season. Both indices also take a steep rise in December; but it is believed that the rise is a temporary aberration in the data and longer term analysis would see little increase in December.

Wholesale trade follows the trends in the construction and manufacturing industries since its components supply those industries. Wholesale trade includes construction material, plumbing and heating equipment, paint and varnish supplies, and transportation equipment. The heaviest activity in wholesale trade occurs in June and July when industries are procuring supplies for the summer season.

In retail trade February payroll and workers' hours both drop off following the flurry of the Christmas season and post Christmas sales. An influx of tourists would most likely alter the cycle of retail trade in the summer whether it is motor-home travelers and campers stocking up on food and supplies for a wilderness experience or a tourist off a cruise ship buying souvenirs to take home. Activity diminishes slightly after the summer before rising again for the fall school season. Activity again diminishes before it picks up for Christmas.

In Alaska all industries respond to the seasons in one way or another. The unusual nature of the climate and location in rela-

1984 Workers' Hours Index

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Mining	83	92	105	99	97	95	100	110	104	102	101	112
Contract Construction	77	77	77	86	98	114	125	142	139	118	79	69
Manufacturing	46	53	73	76	86	128	215	232	127	60	56	48
Food & Kindred Products	21	26	59	45	61	129	298	326	138	35	36	25
Lumber & Paper Prod.	72	93	98	133	129	149	107	109	105	79	65	61
Trans., Comm., & Util.	93	94	92	96	105	111	113	112	106	99	93	86
Trade	92	89	92	96	100	107	109	106	103	103	101	104
Wholesale Trade	93	95	95	100	99	105	107	103	104	98	101	101
Retail Trade	91	87	91	94	100	107	110	107	102	105	102	105

1984 Annual Average = 100

1984 Payroll Index

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Mining	76	88	106	99	99	94	101	109	106	105	105	113
Contract Construction	75	75	77	87	98	114	127	144	141	117	78	67
Manufacturing	57	63	78	88	95	123	174	191	130	77	66	58
Food & Kindred Products	23	28	58	46	62	117	287	317	150	43	39	29
Lumber & Paper Prod.	78	94	101	130	125	148	98	103	105	83	71	63
Trans., Comm., & Util.	92	92	90	97	104	111	114	114	107	101	92	86
Trade	91	86	90	95	100	105	110	106	105	105	103	104
Wholesale Trade	91	89	90	97	96	104	115	107	110	100	103	98
Retail Trade	91	84	90	94	102	106	108	105	102	107	104	107
Fin., Ins., & Real Es.*	87	89	88	95	97	101	103	101	106	104	109	120

1984 Annual Average = 100

* Not available for the Hours Index.

Alaska Hours and Earnings for Selected Industries 1/ 2/

	Average Hourly Earnings			Average Weekly Hours			Average Weekly Earnings		
	P/ 4/85	R/ 3/85	4/84	P/ 4/85	R/ 3/85	4/84	P/ 4/85	R/ 3/85	4/84
Mining	23.31	23.36	23.31	51.1	51.7	50.0	1191.14	1207.71	1165.50
Contract Construction	23.65	24.19	24.58	41.4	44.4	40.9	979.11	1074.04	1005.32
Manufacturing	13.89	13.09	14.27	36.7	38.1	37.3	509.76	498.73	532.27
Food & Kindred Prod	9.15	8.63	8.44	32.2	36.5	28.2	294.63	315.00	238.01
Lumber & Paper Prod	16.77	16.14	16.47	38.9	37.0	46.2	652.35	597.18	760.91
Trans. Comm. & Utilities	14.61	15.29	15.77	36.7	36.7	37.1	536.19	561.14	585.07
Trade	11.64	11.06	10.52	33.8	33.7	35.4	393.43	372.72	372.41
Wholesale	13.35	12.84	12.25	38.6	37.3	38.5	515.31	478.93	471.63
Retail	10.85	10.28	9.73	32.0	32.4	34.1	347.20	333.07	331.79
Finance-Ins. & R.E.	—	—	—	—	—	—	441.25	418.21	378.77

1/ Prepared in cooperation with the Bureau of Labor Statistics, U.S. Department of Labor.

2/ excludes eating and drinking establishments.

AVERAGE HOURS AND EARNINGS SERIES: Averages are based on data for full and part time production workers (manufacturing) and non-supervisory workers (nonmanufacturing) and are for gross earnings and hours paid, including overtime pay and hours.

tion to the lower 48 results in its unique character. In some instances work proceeds through the weather, as in the Southeast where construction work continues despite the constant rain, a situation that would postpone a project in the lower 48. The longer daylight hours of summer allow for longer work shifts and the resulting increased payroll and workers' hours indices. The harsh northern winters prevent major outdoor construction or manufacturing work leading to decreased winter activity. Except for some variations the major trend will continue to be higher summer indices and lower winter indices.